

**REMARKS**

Claims 1-14 are pending.

Claims 1 and 2 are independent claims.

**ENTRY OF AMENDMENT**

The above Amendment should be entered because it corrects an asserted lack of an antecedent basis. This Amendment does not raise any new issues and does not affect the scope of the claims. It was not made earlier because the rejection was made in the Final Office Action.

**REPLY TO REJECTIONS**

**First Rejection**

Claims 5-7 were rejected under 35 U.S.C. § 112, second paragraph, because claim 5 in Paper No. 7 recites the limitation "three-way catalyst". There was an assertion that was insufficient antecedent basis for this limitation in the claim.

Actually, the scope of claims 5-7 would be reasonably ascertainable by those skilled in the art and accordingly the claims would not be indefinite. See the Guidelines set forth in MPEP § 2173.05(a) in the paragraph bridging pages 2100-199 and 2100-200.

In order to alleviate the concerns of the Patent Office, the claims rejected (claims 5-7) have been amended with the exact wording for an antecedent basis.

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejection of the claims under 35 U.S.C. § 112, second paragraph.

**Second Rejection**

Claims 1 and 8-14 were rejected under 35 U.S.C. § 102(e) as being anticipated by Hepburn et al., (U.S. Patent No. 5,594,788 "hereinafter Hepburn '788"). This rejection is traversed.

In section 5 of the Final Office Action, the Patent Office details reasons why the claims were asserted to be "anticipated" by the reference to Hepburn '788.

In base claim 1, the exhaust-purifying means has a function also of a three-way catalyst. Thus, the gas purifying means in the context claimed provides a double function. In the last section of claim 1, "a substance decreasing the NO<sub>x</sub> conversion efficiency of the exhaust gas purifying means is released during operation of the control means and is converted by said function of the three-way catalyst of the exhaust purifying means" has been claimed. The substance, for example, is a sulfur component as explained in the description of Figures 4A and 4B of the drawings as set forth in the specification on page 7, lines 24-29.

As in the present claim (base claim 1), the exhaust purifying means has also a function of a three-way catalyst, while the substance decreasing the NO<sub>x</sub> conversion efficiency is released from the gas purifying means, which is converted into a harmless substance of the function of the three-way catalyst.

*concern: NO<sub>x</sub> cab. has 3-way ability*

As the light off catalyst has HC conversion efficiency that is constant (see claim 2 explanation below) and a lower O<sub>2</sub> storage capability than the exhaust purifying means, HC is converted into a harmless substance and most of the exhaust from the engine breakthrough in the light off catalyst. Accordingly, the substance decreasing the NO<sub>x</sub> conversion efficiency is released from the gas purifying means during operation of said control means.

In Hepburn, in column 4, lines 7-12, Hepburn discloses the system design forces HC, CO, and O<sub>2</sub> breakthrough in the TWC (three-way catalyst). Namely, the TWC of this system is designed to reduce especially HC and CO purifying efficiency to promote chemical reactions in the NO<sub>x</sub> trap (32) for creating xotherm in the trap.

Therefore, Hepburn does not have the above-function of each of the independent claims (claim 2 also discussed below) and does not solve the problem solved by the present structure. See page 3, lines 11-19.

Accordingly, claim 1 is not anticipated from the reference to Hepburn.

With respect to claims 8-14, these claims are considered patentable for at least the same reasons as base claim 1.

**ADDITIONAL COMMENTS REGARDING THE  
REJECTION UNDER 35 U.S.C. § 102**

In describing the features of Hepburn '788, in an effort to establish a rejection under 35 U.S.C. § 102(e) certain comments were made.

Initially, the gas purifying means (32) was stated to have a function of a three-way catalyst. But as identified in the reference, element 26 is the three-

way catalyst (TWC). See, for example, Hepburn, column 2, lines 61-63. Also, in identifying the light-off catalyst, element 26 was identified but as explained this is the TWC as disclosed in Hepburn.

While element 20 was described as the control means, it is correct that this is an EEC which has signals sent to it over conductors 38 and 40. See Hepburn, column 2, lines 24-29.

Also, the control means in the context claimed has a function which has not been identified in the rejection with respect to the Hepburn reference. Also, there is a statement that "this clearly causes a reduction in NO<sub>x</sub> conversion efficiency of the purifying means (32)." This statement is not understood because it appears that the rejection is relying on a possibility or a probability with respect to the reference. | 50X

In rejecting a claim under 35 U.S.C. § 102, the specific features must be shown in the reference either specifically or by inherency. It is considered that the rejection does not carry out this requirement. See *Continental Can Co. USA, Inc. v. Monsanto*, 20 USPQ2d. 1746, 1749, 1750 (Fed. Cir. 1991) which stated as follows:

To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled . . . [such] that the missing . . . matter is necessarily present in the . . . reference, and that it would be so recognized by persons of ordinary skill . . . "Inherency . . . may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient . . ."

Also, in the rejection, there is a statement in the first sentence of the last paragraph on page 4, which is as follows: "the mechanism of purging and reduction of sulfates stored in the purifying means is similar to the three-way catalytic reduction of nitrates" (emphasis added), but the statement of similarity is not consistent with a rejection under 35 U.S.C. § 102, which requires that the reference show each and every limitation in the context claimed.

Also, it appears in the rejection that the specifics of what was added to claim in the last reply has not been addressed or identified specifically in the reference. It is required under law that when a rejection is made under 35 U.S.C. § 102 that each and every limitation be identified in the reference, which the present rejection fails to do. See *Ex parte Levy*, 17 USPQ2d. 1461, 1462 (BPAI 1990) wherein the Board stated as follows:

The factual determination of anticipation requires the disclosure in a single reference of every element of the claimed invention . . . Moreover, it is incumbent upon the Examiner to identify wherein each and every facet of the claimed intention is disclosed in the applied reference. *Linde-Mann Maschinenfabrik GmbH v. American Hoist and Derrick*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984)

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejection of the claims under 35 U.S.C. § 102.

**Third Rejection**

Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hepburn et al., as applied to claim 1 above in view of design choice.

Initially, as explained in the reply to the second rejection, the reference to Hepburn et al. does not show the structure claimed. The reliance on design choice is improper because the functions of what is claimed and the reference are different. See *In re Chu* 36 USPQ 2d 1089 (Fed. Cir. 1995) wherein the Court stated as follows:

Finding of "obvious design choice" precluded when a claim structure and the function it performs are different from the prior art.

The particular limitations referred to in the rejection do add to the totality of the claimed device and are more than design choice. See the importance of the structure as set forth, for example, on page 6, line 27 to page 7, line 2, and page 17, line 12 to page 18, line 9 of the specification.

Also, the citation of *In re Kuhle* (cited in the Office Action) has been considered. As the facts in that case do not parallel the facts in this case, the citation of that case does not add anything to the rejection under 35 U.S.C. §103.

Additionally, the Examiner asserts that one skilled in the art would have recognized the claim differences. *See* page 6, last paragraph. There is no factual basis for this speculation. It is incumbent on the Patent Office to supply facts

to support a rejection under 35 U.S.C. §103. See, In re Warner, 154 USPQ 173, 178 (CCPA 1967) wherein the court stated as follows:

A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art. In making this evaluation, all facts must be considered. The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis.

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejection of the claims under 35 U.S.C. § 103.

**Fourth Rejection**

Claims 2 and 5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hepburn et al. in view of Sanbayashi et al., (U.S. Patent No. 5,349,816). This rejection is traversed.

Claim 2, which was also discussed above in the Reply to the second rejection, does distinguish over Hepburn et al. for the reasons stated above. The addition of Sanbayashi et al., U.S. Patent No. 5,349,816 does not cure the inherent deficiencies of a rejection based on Hepburn.

There is no *prima facie* case of obviousness established in the Office Action.

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejection under 35 U.S.C. § 103.

**Fifth Rejection**

Claims 6 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hepburn et al. in view of Sanbayashi et al. as applied to claim 5 above and further in view of design choice. This rejection is traversed.

With respect to the rejection of claim 5, this was addressed in the reply to the fourth rejection and is incorporated herein.

With respect to the addition of "design choice," this was addressed in the reply to the fourth rejection supra, which is incorporated herein.

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejections of the claims under 35 U.S.C. § 103.

**CONCLUSION**

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Mr. Elliot Goldberg at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit

Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS**

The claims have been amended as follows:

5. The exhaust gas purifying apparatus as defined in claim 2, wherein the light-off catalyst has an oxygen storage capability of first value and the exhaust gas purifying means, having a function of a three-way catalyst has an oxygen storage of a second value which is greater than said first value.

6. The exhaust gas purifying apparatus as defined in claim 5, wherein an amount of oxygen adsorbed on said exhaust gas purifying means, having a function of a three-way light-off catalyst is not greater than about 150 cc per one-liter volume of the catalyst when measured by an oxygen pulse method.

7. The exhaust gas purifying apparatus as defined in claim 6, wherein an oxygen component stored in said exhaust gas purifying means, having a function of a three-way light-off catalyst is not greater than about 25g per one-liter volume of the catalyst.